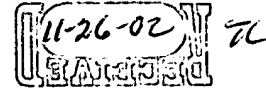


Amendment  
Serial No. 09/243,269  
Page 2

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28. (New) A telecommunications network, comprising:

- at least two network devices;
- a communications path connecting each of said at least two network devices ; and
- at least one controller in communication with said at least two network devices, said at least one controller configured to perform the steps of:
  - detecting a network modification within said telecommunications network;
  - causing at least one of said network devices to transmit a first port identification message to a successive network device in said communications path, said port identification message including information regarding said at least one network device's perception of the network link;
  - receiving a second port identification message from said successive network device, said second port identification message including information regarding said successive network device's perception of the network link;
  - comparing said at least one network device's perception of the network link with said successive network device's perception of the network link; and
  - updating, if said at least one network device's perception of the network link does not agree with said successive network device's perception of the network link, said at least one network device's perception of the network link to agree with said successive network device's perception of the network link.

29. (New) The telecommunications network of claim 28, wherein said at least two network devices comprise network ports.

30. (New) The telecommunications network of claim 29, further comprising at least one network element comprising respective ones of said network ports and said network ports are Synchronous Optical Networking (SONET) ports.

Amendment  
Serial No. 09/243,269  
Page 3

31. (New) The telecommunications network of claim 29, further comprising at least one network element comprising respective ones of said network ports and said network ports are Synchronous Digital Hierarchy (SDH) ports.

32. (New) The telecommunications network of claim 28, wherein said communications path is an optical communications path.

33. (New) The telecommunications network of claim 28, wherein said at least one controller is incorporated within said at least one network device.

34. (New) The telecommunications network of claim 28, wherein at least one controller is incorporated within each of said at least two network devices.

35. (New) The telecommunications network of claim 28, wherein said at least one network device and said successive network device are neighboring devices.

36. (New) The telecommunications network of claim 35, wherein said at least one network device's perception of the network link comprises a device identity of said at least one network device and said successive network device.

37. (New) The telecommunications network of claim 35, wherein said successive network device's perception of the network link comprises a device identity of said successive network device.

38. (New) The telecommunications network of claim 28, wherein said at least one network device is located substantially at a beginning of said communications path and said successive network device is located substantially at an end of said communications path.

Amendment  
Serial No. 09/243,269  
Page 4

39. (New) The telecommunications network of claim 38, wherein said at least one network device's perception of the network link comprises a device identity of said at least one network device, said successive network device and any intermediate devices.

40. (New) The telecommunications network of claim 38, wherein said successive network device's perception of the network link comprises a device identity of said successive network device and any intermediate devices between said at least one network device and said successive network device.

41. (New) The telecommunications network of claim 28, wherein said network modification comprises an addition of a network device to said telecommunications network.

42. (New) The telecommunications network of claim 28, wherein said network modification comprises a reconfiguration of a network link.

43. (New) The telecommunications network of claim 28, wherein said at least one controller is configured to:

cause each of said at least two network devices to transmit a port identification message to a successive device in said communications path, said port identification message including information regarding each of said at least two network device's perception of the network link.

44. (New) The telecommunications network of claim 43, wherein said at least one controller is further configured to develop a network map by accumulating the network link perceptions of each of said at least two network devices.

Amendment  
Serial No. 09/243,269  
Page 5

45. (New) The telecommunications network of claim 44, further comprising a provisioning system configured to allocate telecommunications bandwidth in accordance with said network mapping.

46. (New) The telecommunications network of claim 44 further comprising an alarm processing system responsive to network alarms by re-routing communications through the network, said alarm processing system also responsive to the network link perceptions of each of said at least two network devices.

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47. (New) The telecommunications network of claim 28, wherein said telecommunications network is a bi-directional line switched ring and each of said at least two network devices is configured to transmit port identification messages to network devices before and after each of said at least two network devices along said communications path.

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48. (New) A method for automatic link identification in a telecommunications network comprising at least two network devices and a communications path, comprising;

detecting a network modification within said telecommunications network;

transmitting a first port identification message from at least one of said network devices to a successive network device in said communications path, said port identification message including information regarding said at least one network device's perception of the network link;

receiving a second port identification message from said successive network device, said second port identification message including information regarding said successive network device's perception of the network link;

comparing said at least one network device's perception of the network link with said successive network device's perception of the network link; and

Amendment  
Serial No. 09/243,269  
Page 6

updating, if said at least one network device's perception of the network link does not agree with said successive network device's perception of the network link, said at least one network device's perception of the network link to agree with said successive network device's perception of the network link.

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49. (New) The method of claim 48, wherein each of said at least two network devices is configured to transmit to a successive device in said communications path, a port identification message including information regarding each of said at least two network device's perception of the network link.

50. (New) The method of claim 48, wherein said steps of transmitting and receiving form a logical data link connection between said at least one network device and said successive network device.

51. (New) The method of claim 48, wherein Link Access Protocol-Digital (LAPD) protocol is used for the transmitting of said first and second port identification messages.

52. (New) The method of claim 48, wherein said telecommunications network is a bi-directional line switched ring and each of said at least two network devices is configured to transmit port identification messages to network devices before and after each of said at least two network devices along said communications path.

#### REMARKS

In the Office Action, the Examiner noted that claims 1-27 are pending in the application, claims 16 and 17 are objected to, and that claims 1-15 and 18-27 stand rejected. By this response, claims 1-27 have been cancelled and new claims 28-52 have been added.